



13/appeal Brief
L.S.
7-22-03

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

June 30, 2003

In re Application of: Mark E. Poole
Serial No. 09/818,470
Filed: March 28, 2001
For: APPARATUS FOR CONNECTING AND SEALING DUCT
SECTIONS
Examiner: Aaron M. Dunwoody
Art Unit: 3679
Confirmation Number: 9560
Attorney Docket No.: SFI-1

APPEAL BRIEF

HONORABLE COMMISSIONER OF
PATENTS AND TRADEMARKS
Washington, D.C. 20231

RECEIVED
JUL 16 2003
GROUP 3600

Sir:

This application is before the Honorable Board of Appeals on appeal from the final rejection by the Examiner dated October 29, 2002, wherein claims 1-7 were finally rejected.


(1)

REAL PARTY IN INTEREST

An assignment of the invention claimed in this application from the Appellant to Parrott Mechanical, Inc., a State of Idaho corporation, is recorded in the U.S. Patent and Trademark microfilm records at Reel 013162, Frame 0341. Accordingly, the real party in interest is Parrott Mechanical, Inc. It should be noted, however, that currently, an assignment

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited in the U.S. Postal Service as Certified Mail No: 7002 0860 0005 0389 0482 with a return receipt requested, in an envelope addressed to the Commissioner of Patents and Trademarks, Washington, D.C. 20231 on 6/30/03.


Justin Wood

is being prepared for memorializing the conveyance of the present application from Parrott Mechanical, Inc. to Stamped Fittings, Inc., a State of New York Corporation, which will then be the real party in interest.

(2)

RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to Appellant; the Appellant's legal representative, or assignee, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3)

STATUS OF CLAIMS

Claims 1-7 are pending in the application.

The rejections of claims 1-7 are appealed.

The claims on appeal are set forth in the Appendix to this brief.

(4)

STATUS OF AMENDMENTS AFTER FINAL REJECTION

In response to the Final Rejection dated October 29, 2002, Appellant filed an Amendment After Final Rejection on February 27, 2003, amending claims 1 and 5. The Examiner's Advisory Action of March 31, 2003 states that "Agreement with respect to the claims was reached," and that "The Examiner informed the Appellant that preliminary search has been conducted which may result in withdrawal of the Final Rejection mailed 10/29/02." However, the Advisory Action does not state whether Appellant's Amendment After Final Rejection was entered.

On June 27 and again on June 30, 2003, Appellant's representative telephoned the Examiner to inquire whether the Amendment After Final Rejection was entered. The Examiner stated that he does not know whether the Amendment After Final Rejection was entered. Therefore, Appellant has no way of knowing whether the Amendment After Final Rejection was ever entered or not.

(5)

SUMMARY OF THE INVENTION

The present invention provides an apparatus for connecting and sealing duct sections, for use with round ducts, round oval ducts and other commonly used ducts. A preferred version of the apparatus includes identical first and second connectors associated with the first and second ducts to be connected, each connector including a tubular member having a cross-section corresponding to, and an outside diameter incrementally less than, the inside diameter of the duct to which it is to be attached.

In a preferred embodiment, an O-ring channel is defined in the tubular member, allowing an O-ring to be carried between the tubular member and the inside surface of the duct. A flange extends outward in a radial direction from an outer end of the tubular member. The flange and the tubular member are joined by a radially inner bend. The flange defines inner and outer annular surface.

A radially outer portion of the flange forms a rolled edge. The rolled edge results in a rounded perimeter that will not cut or injure the installer, and increases the strength and rigidity of the flange. As a result of the added strength, the outer annular surfaces of adjacent flanges may be positioned flush against each other without dents, bends or warps resulting in space between the surfaces. A tube cavity, defined within the rolled edge, allows for the optional installation of a wire, which results in still further stiffening of the rolled edge and annular flange.

In use, the apparatus includes first and second connectors attached to the ends of first and second duct sections to be connected. To make this connection, the outer surfaces of two adjacent annular flanges are positioned against each other. A plurality of fasteners, such as bolt/nut pairs or sheet metal screws, pass through holes defined in the flanges and connects the flanges together.

In some applications, a gasket is positioned between the outer annular surfaces. In other applications, duct sealer may be used instead of, or in addition to, the gasket. As the fasteners are tightened, excess duct sealer may be squeezed from between the flanges when the two outer annular surfaces of the two respective connectors are pressed together. In this circumstance, an excess duct sealer trough, defined between the rolled edges of two adjacent connectors, provides a location to which excess duct sealer is discharged. As a result, duct sealer does not foul the round perimeter.

The invention thus provides a novel apparatus for connecting and sealing duct sections, having a rolled edge defined on the outer edge of a radially directed flange, which results in a rigid flange having a planar surface which is not easily deformed, and which results in a rounded perimeter, which is unlikely to cut or injure. A further advantage is to provide an excess duct sealer containment trough whereby, when fasteners are attached to connect the annular flanges, the excess duct sealer carried between the annular flanges is transferred to the excess duct sealer containment trough in a manner that prevents the rounded perimeter from becoming fouled with duct sealer.

(5A)

References Relied Upon by the Examiner

The Examiner relies upon the following references in his final rejection of the claims:

Glover, Jr. *et al.* (U.S. Pat. No. 2,451,941);

Janakirama-Rao (U.S. Pat. No. 4,913,472); and

Davis (U.S. Pat. No. 5,016,925).

(6)

ISSUES

1. Does the proposed amendment of claims 1 and 5 constitute "new matter" under 35 USC § 112, first paragraph?
2. Are claims 1; 2 and 4 anticipated by Glover, Jr. *et al.* (U.S. Pat. No. 2,451,941)?
3. Are claims 3, 5 and 7 obvious over Glover, Jr. *et al.* (U.S. Pat. No. 2,451,941) in view of Janakirama-Rao (U.S. Pat. No. 4,913,472)?
4. Is claim 6 obvious over Glover, Jr. *et al.* (U.S. Pat. No. 2,451,941) in view of Davis (U.S. Pat. No. 5,016,925)?

(7)

GROUPING OF CLAIMS

The rejected claims stand or fall together, except as otherwise noted.

(8)

ARGUMENTS

(8A)

Amended Claims 1 and 5 Are Disclosed in the Original Specification as Filed

Claims 1-7 were rejected under 35 USC 112, first paragraph, as based on a disclosure which is not enabling.

More particularly, the Examiner maintains that the feature of amended claim 1, namely **"at the outer perimeter of the annular flange, the annular rounded perimeter is rounded inwardly, toward the outer end of the tubular member,"** is not enabled by the original

disclosure. Thus, the Examiner states that the proposed amendment of claim 1 constitutes new matter, and therefore the Examiner considered the amended claims, less the alleged new matter.

Appellant respectfully disagrees that the proposed amendment (both in the Amendment After Final Rejection and in Applicant's response to Office Action filed on September 19, 2002) properly constitutes new matter. More particularly, the feature "**at the outer perimeter of the annular flange, the annular rounded perimeter is rounded inwardly, toward the outer end of the tubular member**" is supported *verbatim* in the originally-filed specification at page 9, lines 6-8, 13-15 and 18-22, and is further supported by the drawing, as best seen in Figures 5 and 6A-6E. For example, referring now to Figure 5 and Figures 6A-6E, the annular rounded perimeter feature (63) of flange 50 is quite clear in the drawing. Further, the Figures clearly show **the annular rounded perimeter is rounded inwardly** (*i.e.*, see radially inner bend 61 and radially outer roll 62), **toward the outer end of the tubular member** 25. In other words, the annular rounded perimeter is rounded inwardly, such that its end is curved in towards the outer end of the tubular member. This feature of the invention is most clearly seen in the drawing, particularly at Figures 5 and 6A-6E. Therefore, it is respectfully submitted that the feature "**at the outer perimeter of the annular flange, the annular rounded perimeter is rounded inwardly, toward the outer end of the tubular member**" does not constitute new matter, as this feature is completely described in the originally-filed specification, and thus, undue experimentation would not be required for one of ordinary skill in the art to practice the claimed invention.

Accordingly, Appellant respectfully requests that this Board reverse the rejection of claims 1-7 under 35 USC § 112, first paragraph.

(8B)
**Glover *et al.* Does Not Disclose Each and Every Element of
Claims 1, 2 and 4**

Claims 1, 2 and 4 stand rejected under 35 USC § 102 as being anticipated by Glover *et al.*

In order to avoid rejection for anticipation, it is only necessary to show that a claim contains at least one element not disclosed in a single prior art reference. "Unless all of the same elements are found in exactly the same situation and united in the same way to perform the identical function in prior pleaded art, there is no anticipation." Stauffer v. Slenderella Systems of California, Inc., 254 F.2d 127, 115 USPQ 347 (9th Cir. 1957).

Appellant's independent claim 1, as amended, recites an apparatus for connecting and sealing duct sections, said apparatus including, *inter alia*, a flange having a rolled edge, wherein **"at the outer perimeter of the annular flange, the annular rounded perimeter is rounded inwardly, toward the outer end of the tubular member."**

Glover, Jr. *et al.* does not disclose such feature, rather, Glover, Jr. *et al.* discloses an apparatus wherein the outer perimeter of the flange rolls **outwardly, away from the duct connection**, rather than inwardly toward the duct connection. Therefore, Glover, Jr. *et al.* fails to disclose each and every element of Appellant's claim 1.

Furthermore, Appellant observes that the Examiner-cited "annular rounded perimeter" of Glover '941 would fail to function as required for the present invention. Indeed, as noted above, the true, outer perimeter of the Glover flange rolls outwardly, away from the duct connection, rather than inwardly toward the duct connection. Therefore, the Glover flange fails to form a true "tube cavity," which must function to conceal the "excess duct sealer trough", as required in the claims.

Dependent claims 2 and 4, being dependent from and further limiting independent claim 1, should be allowable for the same reasons, as well as for the additional limitations recited therein.

Accordingly, Appellant respectfully requests that this Board reverse the rejection of claims 1, 2 and 4 under 35 USC § 102 as being anticipated by Glover *et al.*

(8C)
**The Combination Of Glover, Jr., *et al.* in View Of
Janakirama-Rao Fails To Raise A *Prima Facie* Case Of
Obviousness Against Claims 3,5 and 7**

Claims 3, 5 and 7 were rejected under 35 U.S.C. 103(a) as being unpatentable over Glover, Jr. *et al.* in view of Janakirama-Rao.

Appellant believes the claims, as amended, are patentable over Glover, Jr. *et al.* in view of Janakirama-Rao, individually and in combination, for the reasons given above in respect to the section 102 rejection of claims 1, 2 and 4 (as well as claim 5), from which claims 3 and 7 depend, respectively. The arguments above as to the novelty of claims 1 and 5 are repeated here by reference.

Dependent claim 7, being dependent upon and further limiting independent claim 3, should be allowable for the same reasons, as well as for the additional limitations contained therein.

In determining obviousness, the basic issue is whether applied references, alone or in any combination, suggest the claimed invention as a solution to the specific problem solved. When the prior art itself does not suggest or render obvious the claimed solution to that problem, the art involved does not satisfy the criteria of 35 USC § 103 for precluding patentability. Obviousness cannot be established by combining the teachings of the prior art

to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combination. Carela v. Starlight Archery, 231 USPQ 644 (Fed. Cir. 1986).

When features of prior art references are combined to establish obviousness, the mere possibility of such a combination does not render the result of that combination obvious absent a logical reason of record which justifies the combination. In re Regel, 526 F.2d 1399, 188 USPQ 136 (CCPA 1975). Instead, references may only be modified when (1) the prior art would have suggested to those of ordinary skill in the art that they should make the claimed composition or perform the claimed process, and (2) that those of ordinary skill in the art would have a reasonable expectation of success of making the claimed composition or performing the claimed process. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Thus, there must be a reason apparent to one skilled in the art at the time of the invention for applying the teaching at hand, or the use of the teaching as evidence of obviousness entails prohibited hindsight. Graham v. John Deere Co., 383 US 1, 148 USPQ 459 (1966). A fairly recent case from the CAFC amplifies this basic tenet and is quoted at length here.

"Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. *See, e.g., C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fed. Cir. 1998) (describing "teaching or suggestion or motivation [to combine]" as an "essential evidentiary component of an obviousness holding"); *In re Rouffet*, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998) ("the Board must identify specifically . . . the reasons one of ordinary skill in the art would have been motivated to select the references and combine them"); *In re Fritch*, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992) (examiner can satisfy burden of obviousness in light of combination "only by showing some objective teaching [leading to the combination]"); *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988) (evidence of teaching or suggestion "essential" to avoid hindsight); *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 297, 227 USPQ 657, 667 (Fed. Cir. 1985) (district court's conclusion of obviousness was error when it "did not elucidate any factual teachings, suggestions or incentives from this prior art that showed the propriety of combination").

See also Graham, 383 U.S. at 18, 148 USPQ at 467 ("strict observance" of factual predicates to obviousness conclusion required). Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability--the essence of hindsight. *See, e.g., Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138, 227 USPQ 543, 547 (Fed. Cir. 1985) ("The invention must be viewed not with the blueprint drawn by the inventor, but in the state of the art that existed at the time."). In this case, the Board fell into the hindsight trap.

We have noted that evidence of a suggestion, teaching, or motivation to combine may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, from the nature of the problem to be solved, *see Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1630 (Fed. Cir. 1996), *Para-Ordinance Mfg. v. SGS Imports Intern., Inc.*, 73 F.3d 1085, 1088, 37 USPQ2d 1237, 1240 (Fed. Cir. 1995), although "the suggestion more often comes from the teachings of the pertinent references," *Rouffet*, 149 F.3d at 1355, 47 USPQ2d at 1456. The range of sources available, however, does not diminish the requirement for actual evidence. That is, the showing must be clear and particular. *See, e.g., C.R. Bard*, 157 F.3d at 1352, 48 USPQ2d at 1232. Broad conclusory statements regarding the teaching of multiple references, standing alone, are not "evidence." *E.g., McElmurry v. Arkansas Power & Light Co.*, 995 F.2d 1576, 1578, 27 USPQ2d 1129, 1131 (Fed. Cir. 1993) ("Mere denials and conclusory statements, however, are not sufficient to establish a genuine issue of material fact."); *In re Sichert*, 566 F.2d 1154, 1164, 196 USPQ 209, 217 (CCPA 1977) ("The examiner's conclusory statement that the specification does not teach the best mode of using the invention is unaccompanied by evidence or reasoning and is entirely inadequate to support the rejection."). In addition to demonstrating the propriety of an obviousness analysis, particular factual findings regarding the suggestion, teaching, or motivation to combine serve a number of important purposes, including: (1) clear explication of the position adopted by the Examiner and the Board; (2) identification of the factual disputes, if any, between the applicant and the Board; and (3) facilitation of review on appeal. Here, however, the Board did not make particular findings regarding the locus of the suggestion, teaching, or motivation to combine the prior art references." *In re Dembiczak*, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999).

The Examiner combines the features of the invention from Glover with the features of the invention of Janakirama-Rao to reject the present claims. Appellant respectfully points out several problems with this combination.

First, it is duly noted that, in order to establish a *prima facie* case of obviousness, the Examiner must establish that the prior art provides some teaching, suggestion or motivation to combine or modify the cited references, as described in Appellant's disclosure, otherwise, the

Examiner is using impermissible hindsight to reject the claims. Further, the Examiner must show that one of ordinary skill in the art would have a reasonable expectation of success in making the claimed invention. Secondly, it is noted that the Examiner is required to support the obviousness rejection with actual evidence, as opposed to mere Examiner's arguments. See In re Zurko, 142 F.3d 1447, 46 USPQ2d 1691 (Fed. Cir., 1998).

It is respectfully submitted that there is no motive to modify or combine the references, as the Examiner suggests, either disclosed or suggested anywhere in the prior art of record. Furthermore, the Examiner has provided no evidence to support the conclusion of obviousness. More particularly, in regard to claim 3, the Examiner asserts that it would have been obvious to provide the duct sections of Glover with a duct sealer trough, as taught by Janakirama-Rao. However, the Examiner has not provided any evidence whatsoever showing that the prior art teaches or suggests that such combination should be made, or that one of ordinary skill in the art would have a reasonable expectation of success.

Moreover, even if one were to combine the references, as suggested by the Examiner, such combination would not result in the invention that is being claimed by Appellant. More particularly, the combination of Glover with Janakirama-Rao would merely result in a duct having a duct sealer trough and a flange, wherein the outer perimeter of the flange rolls **outwardly, away from the duct connection**, rather than inwardly toward the duct connection, as required by Appellant's claims 1-7. Thus, the cited combination of references would not result in Appellant's invention, even if there were some motivation to combine the references as suggested by the Examiner.

Accordingly, Appellant respectfully requests that this Board reverse the rejection of claims 3, 5 and 7 under 35 U.S.C. 103(a) as being unpatentable over Glover, Jr. *et al.* in view of Janakirama-Rao.

(8D)
**The Combination Of Glover, Jr., *et al.* in View Of Davis
Fails To Raise A *Prima Facie* Case Of Obviousness Against
Claim 6**

Claim 6 was rejected under 35 U.S.C. 103(a) as being unpatentable over Glover, Jr. *et al.* in view of Davis.

Appellant respectfully disagrees, and believes the claims, as amended, are patentable over Glover, Jr. *et al.* in view of Davis, individually and in combination, for the reasons given above in respect to the section 103 rejection of claims 3, 5 and 7 (and claim 3, from which claim 6 depends). The arguments above as to the non-obviousness of claims 1 and 5 are repeated here by reference.

It is respectfully submitted that there is no motive to modify or combine the references, as the Examiner suggests, either disclosed or suggested anywhere in the prior art of record. Furthermore, the Examiner has provided no evidence to support the conclusion of obviousness. More particularly, in regard to claim 6, the Examiner asserts that it would have been obvious to fabricate the duct section of Glover to include an O-ring channel on an outer surface, to form a watertight seal, as taught by Davis. However, the Examiner has not provided any evidence whatsoever showing that the prior art teaches or suggests that such combination should be made, or that one of ordinary skill in the art would have a reasonable expectation of success.

Davis does not cure the deficiencies of Glover. Furthermore, although forming a watertight seal apparently is a motive in Davis, this is not the problem that is solved by the present invention. If that were the problem to be solved, the present invention would not have been invented. Moreover, even if one were to combine the references, as suggested by the Examiner, such combination would not result in the invention that is being claimed by Appellant. More particularly, the combination of Glover with Davis would merely result in a duct having an O-ring channel and a flange, wherein the outer perimeter of the flange rolls

outwardly, away from the duct connection, rather than inwardly toward the duct connection, as required by Appellant's claims 1-7. Thus, the cited combination of references would not result in Appellant's invention, even if there were some motivation to combine the references as suggested by the Examiner.

Accordingly, Appellant respectfully requests that this Board reverse the rejection of claim 6 under 35 U.S.C. 103(a) as being unpatentable over Glover, Jr. *et al.* in view of Davis.

(9)

CONCLUSION

It is respectfully suggested that the Examiner has not made a "clear and particular" showing of the suggestion to combine Glover *et al.* and Janakirama-Rao or Davis references. Appellant believes that the Examiner is using impermissible hindsight in his analysis, in the same vein as the CAFC comments on "hindsight." The only motivation for any combination of the cited references is found in the Appellant's application. The combination suggested by the examiner (1) is done without suggestion or motive, and (2) still doesn't yield the Appellant's invention. That is, there is no teaching or suggestion in the prior art to combine the cited references, and even making the combination suggested by the Examiner doesn't produce all the claimed features and limitations recited in the claims. Therefore, the claims are patentable over the art cited.

Accordingly, Appellant respectfully requests that this Board reverse the rejections of claims 1-7 and allow the application and pending claims to issue.

(10)

ADDITIONAL COMMENT AND RESERVATION

Appellant believes it has responded to all of the reasons for rejection which it can discern in the Office Action. Because of the lack of clarity in the Office Action, however, Appellant reserves the right to respond with a supplementary argument to any reasons for

rejection which were not responded to in this brief, if the Examiner should assert in his Answer that any were not responded to herein.

Respectfully submitted:

By: Thomas T. Aquila
Thomas T. Aquila, Reg. No. 43,473, Attorney for Appellant
Brown & Michaels, PC
400 M&T Bank Building
118 North Tioga Street
Ithaca, NY 14850
Telephone: (607) 256-2000
Fax: (607) 256-3628
June 30, 2003

(11)

APPENDIX

Claims on Appeal

APPENDIX OF AMENDED CLAIMS

The following are the amended claims, marked up to show all changes relative to the previous version of each claim so amended, in compliance with 37 CFR § 1.121(c)(1)(ii):

1 1. (Twice amended) An apparatus for connecting and sealing duct sections, the apparatus
2 comprising:

3 (A) first and second connectors, each connector comprising:

4 (a) a tubular member;

5 (b) an annular flange, extending radially outwardly from an outer end of the
6 tubular member; and

7 (c) a rolled edge, comprising:

8 (i) an annular radially inner bend, attached to the outer perimeter of
9 the annular flange;

10 (ii) an annular radially outer roll, adjacent to the radially inner bend;

11 (iii) an annular rounded perimeter, adjacent to the annular radially
12 outer roll and at the outer perimeter of the annular flange, the
13 annular rounded perimeter is rounded inwardly, toward the outer
14 end of the tubular member; and

15 (iv) whereby a tube cavity is defined within the annular radially
16 outer roll and annular rounded perimeter;

17 (B) whereby an excess duct sealer trough is defined between rolled edges of the
18 first and second connectors; and

19 (C) a plurality of fasteners connecting the annular flange of the first connector to
20 the annular flange of the second connector.

1 2. The apparatus for connecting and sealing duct sections of claim 1, additionally comprising:

2 (A) a gasket, carried between outer annular surfaces of the annular flanges of the first
3 and second connectors, the gasket having a first side surface directed toward the outer
4 annular surface of the first connector and a second side surface directed toward the
5 outer annular surface of the second connector.

1 3. The apparatus for connecting and sealing duct sections of claim 2, additionally comprising:

2 (A) a duct sealer, carried firstly between the first side surface of the gasket and the
3 outer annular surface of the annular flange of the first connector, and carried secondly
4 between the second side surface of the gasket and the outer annular surface of the
5 annular flange of the second connector, and carried thirdly carried in the excess duct
6 sealer trough defined between the rolled edges of the first and second connectors.

1 4. The apparatus for connecting and sealing duct sections of claim 1, additionally comprising:

2 (A) a duct sealer, carried firstly between the annular flange of the first connector and
3 the annular flange of the second connector.

1 5. (Twice Amended) An apparatus for connecting and sealing duct sections, the apparatus
2 comprising:

3 (A) first and second connectors, each connector comprising:

4 (a) a tubular member;

5 (b) an annular flange, extending radially outwardly from an outer end of the
6 tubular member; and

7 (c) a rolled edge, comprising:

8 (i) an annular radially inner bend, attached to the outer perimeter of
9 the annular flange;

10 (ii) an annular radially outer roll, adjacent to the radially inner bend;

11 (iii) an annular rounded perimeter, adjacent to the annular radially
12 outer roll and at the outer perimeter of the annular flange, the
13 annular rounded perimeter is rounded inwardly, toward the outer
14 end of the tubular member;

15 (iv) whereby a tube cavity is defined within the annular radially
16 outer roll and annular rounded perimeter; and

17 (v) a wire rod, carried within the tube cavity;

18 (B) whereby an excess duct sealer trough is defined between rolled edges of the
19 first and second connectors;

20 (C) a gasket, carried between outer annular surfaces of the annular flanges of the
21 first and second connectors, the gasket having a first side surface directed
22 toward the outer annular surface of the first connector and a second side
23 surface directed toward the outer annular surface of the second connector;

24 (D) a duct sealer, carried firstly between the first side surface of the gasket and the
25 outer annular surface of the annular flange of the first connector, and carried
26 secondly between the second side surface of the gasket and the outer annular
27 surface of the annular flange of the second connector, and carried thirdly tamed
28 in the excess duct sealer trough defined between the rolled edges of the first
29 and second connectors; and

30 (E) a plurality of fasteners connecting the annular flange of the first connector to
31 the annular flange of the second connector.

1 6. The apparatus for connecting and sealing duct sections of claim 1, additionally comprising:

2 (A) an O-ring channel defined on an outer surface of the tubular member, the O-
3 ring channel for receiving an O-ring.

1 7. The apparatus for connecting and sealing duct sections of claim 1, additionally comprising:

2 (A) a wire rod, carried within the tube cavity.